



## AEM Engineer Chuck McCord

For many projects, Chuck McCord is not especially well known by our clients. His work is not always "highly visible," but he is the "go to guy" within AEM for all of our remediation operational issues. When not involved with design and construction, Chuck conducts maintenance of operating remediation systems, keeping each system operating at peak performance and optimized for the lowest operating costs. Our clients may only know that these systems are operating without problems or down-time, but they may not stop to consider the person who is responsible.

Chuck is an environmental engineer with 17 years of consulting experience. He received a BS degree in industrial engineering from the Southern Technical Institute in Marietta, Georgia, in 1976 before joining the U.S. Marine Corps. After 13 years with the Marine Corps, having achieved the rank of Captain, he moved into environmental consulting. He worked with other consulting/engineering companies before joining AEM in 1999.



Chuck has extensive experience related to all types of environmental issues, including corrective actions, underground storage tank management, preparation of environmental plans and programs, and compliance issues, and he has provided RCRA, OSHA, and HAZCOM training for a number of our clients.

Although Chuck is a "well rounded" engineer in a number of environmental areas, one of his specialties is the design, installation, and operation of remediation systems. AEM has designed and installed a number of innovative remediation systems for our cli-

ents, as well as the more traditional air sparging, dual vapor extraction, and pump and treat systems. Chuck has been a valuable resource for these projects.

Design and installation of a remediation system, however complicated, is normally straightforward for Chuck. However, in a number of cases AEM has been asked by our clients to take over projects, including remediation systems, from other consultants. Chuck is the individual who must review the original design and past operation and then determine how best to operate and maintain the system. In most cases Chuck has found ways to automate some functions and reduce maintenance costs and has optimized existing older systems to reduce the volume of costly chemicals used in the process.

Chuck is a valuable resource within AEM and to our clients. If you have any questions regarding remediation systems, please give Chuck a call at AEM at (404) 329-9006, or contact him by e-mail at [chuck-mccord@aem-net.com](mailto:chuck-mccord@aem-net.com).

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## EPA Toxicological Review of Tetrachloroethylene

EPA is in the process of reevaluating the toxicity criteria for tetrachloroethylene (PCE), a chemical solvent that is widely used for dry cleaning of fabrics, for metal degreasing, and in the production of some consumer products and other chemicals. In the United States, an estimated 27,000 dry cleaners currently use PCE. It has been detected in ambient air in and near dry cleaning facilities and, in some cases, adjacent residences. Discharges of PCE from industrial facilities and dry cleaners can also contaminate groundwater, and PCE has been found in drinking water. It is also found in the soil of about half of the Superfund National Priority List hazardous waste sites.

In the June 26, 2008, Federal Register Notice, EPA announced a 90-day public comment period for the draft document entitled

"Toxicological Review of Tetrachloroethylene (Perchloroethylene; CAS No. 127-18-4): In Support of Summary Information on the Integrated Risk Information System (IRIS)." (Also see <http://cfpub.epa.gov/ncea> and select link to toxicity review.) The document was prepared by the National Center for Environmental Assessment (NCEA) within EPA's Office of Research and Development.

In essence, the draft document proposes changes to the PCE toxicology numerical values (i.e., decreasing the toxicity) used in performing risk assessments and risk evaluations. The approval of the proposed changes will affect the current cleanup levels established through the risk assessment process for PCE-impacted soil and groundwater at sites undergoing reme-

diation and, if implemented as proposed, may result in slightly higher cleanup concentrations than currently calculated levels. Thus, the ultimate result for risk assessment or risk evaluation could provide a somewhat improved time and cost for remediation for one or both media, depending upon the site.

AEM vice president Dr. Loring Pitts will be tracking U.S. EPA progress on the review and evaluating any comments that are provided during the public comment period. If you have any questions regarding the review process or potential implications of this reevaluation, please contact Dr. Loring Pitts at AEM at (404) 329-9006 or by electronic message at [loring-pitts@aem-net.com](mailto:loring-pitts@aem-net.com).

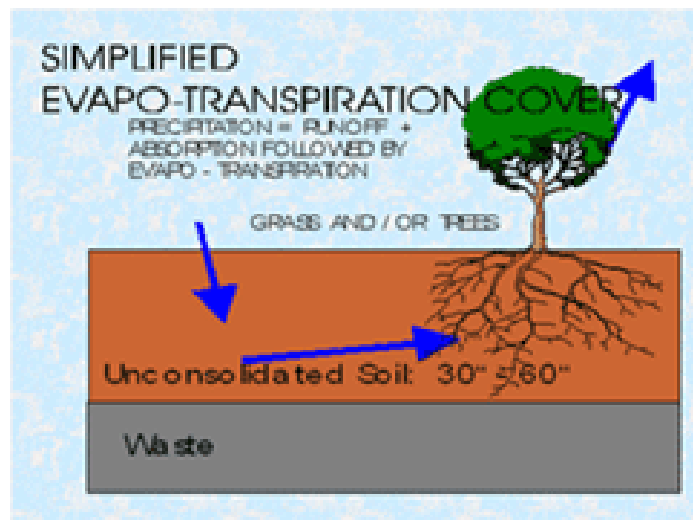
## U.S. EPA Research Highlights

### Field-Testing Alternative Landfill Covers

Modern landfills are complicated and costly structures. Closely regulated by state and federal statutes, they are designed to protect buried trash from contact with air, light, and water. This “dry tomb” technology relies on various systems of liners and surface capping, using clay, plastic membranes, or both.

The high costs associated with traditional impermeable landfill covers and a growing interest in alternative designs prompted EPA to create the Alternative Cover Assessment Program (ACAP) in 1997. This national program, supervised by NRMRL researchers, was the first field-scale, side-by-side comparison of traditional and alternative covers.

In collaboration with a dozen private and public partners, the ACAP researchers in 14 communities over a 6-year period examined when and how much water passed through the test cover systems. In so doing, the program generated the world’s largest body of data on landfill cover performance.



The data provide a body of historical information on how systems succeed or fail across a wide range of climates and soil conditions. They also provide the technical foundation for a computer-based methodology that can be used by engineers, regulators, and other decision makers to design and evaluate alternative covers.

Covers of compacted clay or a composite of geomembrane over clay have been the standard practice since the Resource Conservation and Recovery Act of 1976. Typically, these covers require 18 inches of earthen material with an erosion overlay of at least 6 inches of soil capable of supporting native plant growth. Questions about the long-term performance of these impermeable covers had gone unanswered for lack of substantial data. Meanwhile, by the late 1990s, alternative evapotranspiration (ET) covers were being developed.

Using site-specific variables of soil, plants, and climate, ET covers rely on a “sponge and pump” action in which soil and plants absorb precipitation, store it, and then later release much of the moisture back into the atmosphere through evaporation (from the soil) and transpiration (from the plants).

Also known as water balance or vegetative caps, ET covers can be based either on a continuous layer of soil or on layers that create capillary breaks, a feature that improves the water-holding capacity of the

soil. Plantings include grasses, bushes, or fast-growing trees appropriate to the site. The ACAP research was designed as an on-site, data-driven program to answer performance questions about both ET and traditional covers.

The test sites in California, Georgia, Iowa, Montana, Nebraska, Ohio, and Oregon were chosen for a variety of climates, soils, and climax (stable) vegetation. Each test site contained sensors and devices for measuring run-off, soil moisture, meteorological data, and percolation through the cover.

#### Key Findings

ACAP research yielded the following key findings:

- As a measurement program for drainage performance and for process and design variables, ACAP was a complete success. The program has led to a better understanding of testing cover designs.
- In all locations, alternative covers performed as well as or better than compacted clay covers.
- To date, installation cost savings total \$205 million at the 30 sites using alternative covers.
- ACAP data and design methodologies have been used in support of regulatory decisions to approve permits for and installation of alternative cover systems at many conventional cover sites, including four Superfund sites.

Although decisions about landfill cover design still require site-specific evaluation, the information gleaned from the ACAP data makes this technology a very useful tool.

### Supplemental Information

Source: <http://www.clu-in.org/products/altcovers/>

The Clu-In website includes information on approximately 93 alternative landfill cover projects that involve roughly 47 demonstration projects and 46 full-scale applications. Four types of alternative landfill covers are included in this web site: monolithic evapotranspiration (ET) covers, capillary barrier ET covers, asphalt covers, and bioengineering management covers. These alternative cover designs are increasingly being considered for use at waste disposal sites, including municipal solid waste and hazardous waste landfills and radioactive waste sites. As further information is obtained, EPA plans to update and expand this web site with new profiles on alternative landfill cover projects and updated information about existing project profiles. EPA is continuing its efforts to examine trends in the use of alternative landfill covers.

### Summary

Although significant progress has been made in developing alternatives to traditional soil and synthetic caps for landfills, additional studies and research will eventually develop a much wider range of applications depending on local conditions, especially climate. As in other technologies, a “one size fits all” landfill cap does not exist that is perfect for all conditions. In some cases, local climate may allow construction of an alternative-type cap. However, in some cases, this may not be the best option when considering overall cost. Like all remediation technologies, landfill capping design must be based on sound engineering. If you have any questions regarding this article, or other types of landfill caps, please contact Jeff Cook at AEM at (404) 329-9006, or by electronic message at [jeff-cook@aem-net.com](mailto:jeff-cook@aem-net.com).

## Regulation Not Needed for 11 Potential Drinking Water Contaminants

**UPDATE:** Earlier this year, AEM reported that EPA was in the process of evaluating the incorporation of additional contaminants under the Safe Drinking Water Act.

(U.S. EPA, July 24, 2008)

The U.S. Environmental Protection Agency has made a final determination not to regulate 11 contaminants on the secondary drinking water contaminant candidate list (CCL 2). The agency has concluded that the contaminants either do not occur nationally in public water systems or occur at levels below a public health concern. The agency's final regulatory determination is based on extensive review of

health effects, occurrence data, and public comments.

"Sound science and public health drive EPA's decisions under the Safe Drinking Water Act," said Benjamin H. Grumbles, EPA's assistant administrator for water. "We will continue to thoroughly review new and emerging contaminants to ensure that citizens and our environment are protected."

The 11 contaminants include naturally occurring substances, pesticides, herbicides, and chemicals used (or once used) in manufacturing. Although none of the contaminants were found nationally at levels of public health concern in public water

systems, EPA is updating health advisories for seven of the contaminants to provide current health information to local officials for situations where the contaminants may be present.

EPA is updating health advisories for boron, dacthal mono- and di-acid degradates, 1,3-dichloropropene (Telone), 2,4-dinitrotoluene and 2,6-dinitrotoluene, and 1,1,2,2-tetrachloroethane. EPA has determined that updated or new health advisories are not needed for 1-dichloro-2,2-bis(p-chlorophenyl) ethylene (DDE), s-ethyl propyl thiocarbamate (EPTC), Fonofos, and Terbacil, because the national monitoring data showed almost no occur-

rence at levels of public health concern.

A regulatory determination is a formal decision on whether EPA should initiate a rulemaking process to develop a national primary drinking water regulation for a specific contaminant. Under the Safe Drinking Water Act, every five years EPA develops a CCL and then makes a regulatory determination for at least five contaminants on the list. In 2005 the agency published the second CCL, which listed 51 contaminants. In May 2007, EPA requested public comment on its preliminary regulatory determinations not to regulate 11 of these 51 CCL 2 contaminants.

## Are Your Trucks Idling Too Long?

An August 13, 2008, U.S. EPA press release stated that a Massachusetts waste hauling company agreed to pay \$195,000 to settle an environmental enforcement case by EPA and the U.S. Department of Justice for excessive motor vehicle idling.

In 2007, an EPA inspector observed more than 60 diesel-powered trucks idling excessively at four of the company's locations in Massachusetts.

The settlement, filed as a judicial consent decree, is the latest of nine federal enforcement actions brought against vehicle fleet owners in New England for idling violations. The settlement in-

cludes an anti-idling program with driver training, posted signs, and twice-daily inspections of the depots' parking lots. The company will also certify that shut-off devices in its trucks are working and are set to a five-minute standard.

"Excessive vehicle idling is an entirely preventable form of air pollution," said Robert Varney, regional administrator of EPA's New England office. "Idling from diesel engines contributes to ozone smog and particulate pollution, increasing health risks for people who are exposed to these emissions."

This action is part of EPA's ongoing effort to reduce unnecessary engine idling. Idling wastes fuel, emits greenhouse gases, and degrades air quality. EPA's enforcement effort is complemented by providing assistance to fleets and facilities to help find alternatives to idling. An idling truck or bus can waste nearly a gallon of fuel per hour and incurs significantly more engine wear than driving. Curbing excessive idling is a win-win situation for both fleet owners and the environment.

The Massachusetts idling regulation enforced by EPA in this case generally limits vehicle

idling to no more than five minutes. A number of other states and local municipalities have idling regulations but the times and exemptions vary. The American Transportation Research Institute (ATRI) has posted an Idling Regulations Compendium on its website:

[http://www.atri-online.org/research/idling/atri\\_idlingcompendium7\\_11\\_08.pdf](http://www.atri-online.org/research/idling/atri_idlingcompendium7_11_08.pdf)

Companies that operate trucks may also wish to check idling regulations through their state and local municipalities.

## Manufacturers and Retailers Balance Tires and the Environment

(U.S. EPA, 08/29/2008)

Tire companies, big box stores, and the government are putting the brakes on the use of lead wheel weights. Through EPA's National Lead-Free Wheel Weight Initiative, partners have agreed to phase in the use of lead-free alternative wheel weights and reduce the amount of lead released into the environment by 2011.

"Our partners have pledged to reduce or eliminate their use of lead wheel weights," said Susan Parker Bodine, assistant adminis-

trator of EPA's Office of Solid Waste and Emergency Response. "Their efforts will remove millions of pounds of lead from the environment and the waste stream."

Eliminating lead wheel weights is a significant step toward reducing the overall amount of lead released into the environment.

EPA estimates that 50 million pounds of lead per year are used for wheel weights in cars and light trucks. It is common for wheel weights to come off when a vehicle hits a pothole

in the road or stops suddenly, which results in lead entering the environment. Lead-containing wheel weights also add lead into the environment as they move into the waste stream at the end of product life.

The charter members include Firestone Complete Auto Care; Firestone Racing (a division of Bridgestone Firestone North American Tire); Goodyear Tire and Rubber Co.; Costco Wholesale; Wal-Mart Tire and Lube Express; Sam's Club Tire and Battery Cen-

ters; Wal-Mart Transportation; Hennessy Industries Inc.-BADA Division; Perfect Equipment; 3M Automotive Division; the U.S. Air Force; U.S. Postal Service; General Services Administration; Ford Motor Co.; General Motors Corp.; Chrysler; Plombco; the Association of International Automobile Manufacturers; the Town of Blacksburg, Virginia; the Ecology Center; Sierra Club; the Environmental Council of States; and several small businesses.

**WE HELP SOLVE ENVIRONMENTAL  
AND ENGINEERING PROBLEMS!  
PLEASE GIVE US THE OPPORTUNITY  
TO WORK WITH YOU.**

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## **ABOUT US.....**

AEM is a small, woman-owned business founded in 1988. Janet Hart, who has been President since 1988, continues to manage day-to-day operations that have led to our significant growth since inception and our continued success in the environmental market. Although company growth is an objective, it is our philosophy that growth is secondary to client service and quality. Put simply, the company's primary loyalty is to its clients, not to the growth of the company, unless growth provides for better client service. Building strong and lasting relationships with our clients is the most important thing that we can do to achieve our goals and ensure our future success.

AEM is committed to providing high-quality, cost-effective environmental services with a primary goal of client satisfaction. One quality that sets AEM apart from the competition is the personalized service and attention given to clients—the direct response to our clients' needs in a timely manner. We continuously work to improve the quality of our services to our clients.

AEM actively supports a number of charities including Doctors Without Borders, the Antares Orphan Foundation, the Humane Society of the United States, the Society for the Prevention of Cruelty to Animals, and CARE.

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